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9 Attorneys for WAYMO LLC

10 UNITED STATES DISTRICT COURT

11 NORTHERN DISTRICT OF CALIFORNIA

12 SAN FRANCISCO DIVISION

13 WAYMO LLC,

14 Plaintiff,

15 vs.

16 UBER TECHNOLOGIES, INC.;
17 OTTOMOTTO LLC; OTTO TRUCKING
LLC,

18 Defendants.

CASE NO. 3:17-cv-00939-WHA

**STATEMENT OF WAYMO ATTORNEY
CHARLES VERHOEVEN IN RESPONSE
TO COURT ORDER (DKT. 784)
REGARDING PATENT CLAIMS**

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20 **REDACTED VERSION OF DOCUMENT(S) SOUGHT TO BE SEALED**
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Pursuant to Question 8 of the Court’s June 30, 2017 Order Re Early Motions *In Limine* and Related Matters (Dkt. 784), Waymo and its counsel, Charles Verhoeven, submits the following statement regarding its patent claims.

The operative complaint in this matter asserts four patents U.S. Patent Nos. 9,086,273, 8,836,922, 9,285,464 and 9,368,936. Dkt. 23. The parties have agreed to dismiss three of the four patents in a stipulation filed earlier this morning (Dkt. 814), those being U.S. Patent Nos. 9,086,273, 8,836,922, and 9,285,464, for reasons described below. One patent remains currently asserted, Waymo's U.S. Patent No. 9,368,936 (referred to herein as the “Circuit Patent”). The Circuit Patent is directed to a laser diode firing circuit for a LiDAR device. Waymo accuses Uber’s current-generation in-house “Fuji” LiDAR device of infringing the Circuit Patent. Dkt. 23-3. This patent was not included in Waymo's motion for a preliminary injunction, so the Court likely has not had the opportunity to consider its merits. As set forth below, Waymo has uncovered evidence that Uber is infringing the Circuit Patent with its Fuji LiDAR device.

I. PATENT CLAIM NARROWING

Waymo has uncovered evidence that demonstrates Uber’s “Spider” LiDAR device—personally designed by Anthony Levandowski—infringes the ’922 and ’464 patents that Mr. Levandowski co-invented when he was employed at Waymo. *See* Dkt. 285-4 at 9-10. Like the ’922 and ’464 patents, the Spider LiDAR used a common lens to both transmit and receive laser beams. Dkt. 449 at 2. Uber has not denied that Spider used a common lens, but instead has defended against the Spider-driven claims by arguing that Uber “abandoned” the Spider design in October 2016. Dkt. 385 at 7. According to Uber’s court filings, “Spider was never made, used, sold, offered for sale, or imported,” and “Uber has no plans to revive the abandoned Spider project.” Dkt. 331 at 4-5.

In reliance on these repeated representations, made to the Court and under penalty of perjury, and in an effort to streamline the case for the October 2017 trial, Waymo agreed to not to take its patent claims against Spider to trial. In particular, the parties agreed to dismiss the claims against Spider without prejudice, with Waymo expressly retaining its right to refile its patent claims against Uber should Uber revive or otherwise continue to develop Spider. Moreover, under the agreement, if Uber makes or uses future LiDAR devices that infringe the ’273, ’922 and ’464 patents, or modifies

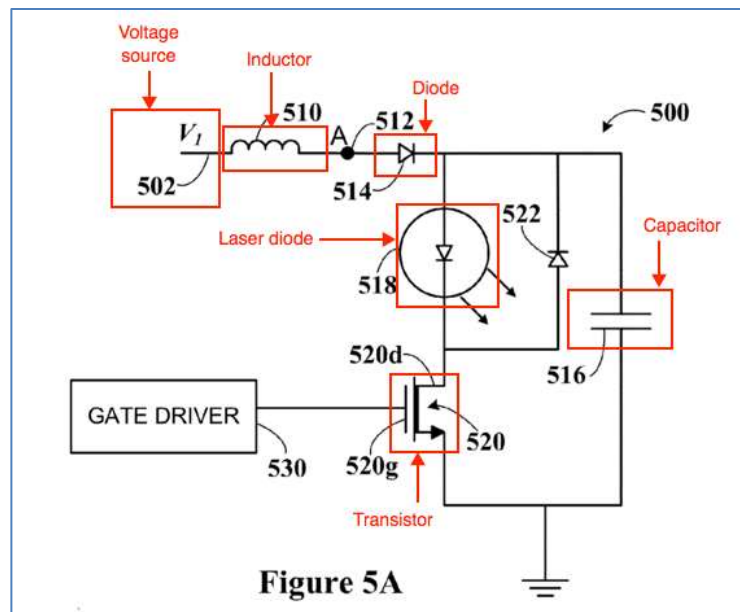
Fuji in such a way as to infringe the '273, '922 and '464 patents, Waymo is able to assert the patents against those devices. Thus, the agreed-upon dismissal ensures not only that Uber has ceased making and using its infringing Spider device, but also leaves Waymo free to assert the '273, '922 and '464 patents against any future infringing devices.

Not included in the parties' narrowing discussions to date is the Circuit Patent. Unlike the '922 and '464 patents, the Circuit Patent was not at issue during the preliminary injunction proceedings. The Circuit Patent is also not directed at Spider as an accused product. Rather, Waymo alleges that Uber's current generation Fuji LiDAR device infringes the Circuit Patent. As described below, Waymo has uncovered evidence demonstrating that the Fuji device infringes at least claim 1 of the Circuit patent.

II. EVIDENCE UNCOVERED TO DATE REGARDING INFRINGEMENT OF THE CIRCUIT PATENT BY DEFENDANTS

A. Background on the Invention of the Circuit Patent

The inventions claimed in the Circuit Patent relate to an improved LiDAR firing circuit that quickly and reliably provides a voltage across a laser diode in order to generate the light pulses needed for detection. Dkt. 23-3. An example embodiment of the firing circuit is shown in Figure 5A of the patent. It includes a voltage source 502, inductor 510, diode 514, capacitor 516, laser diode 518, and transistor 520:



1 *Id.* at 17:47-63, Fig. 5A (annotated).

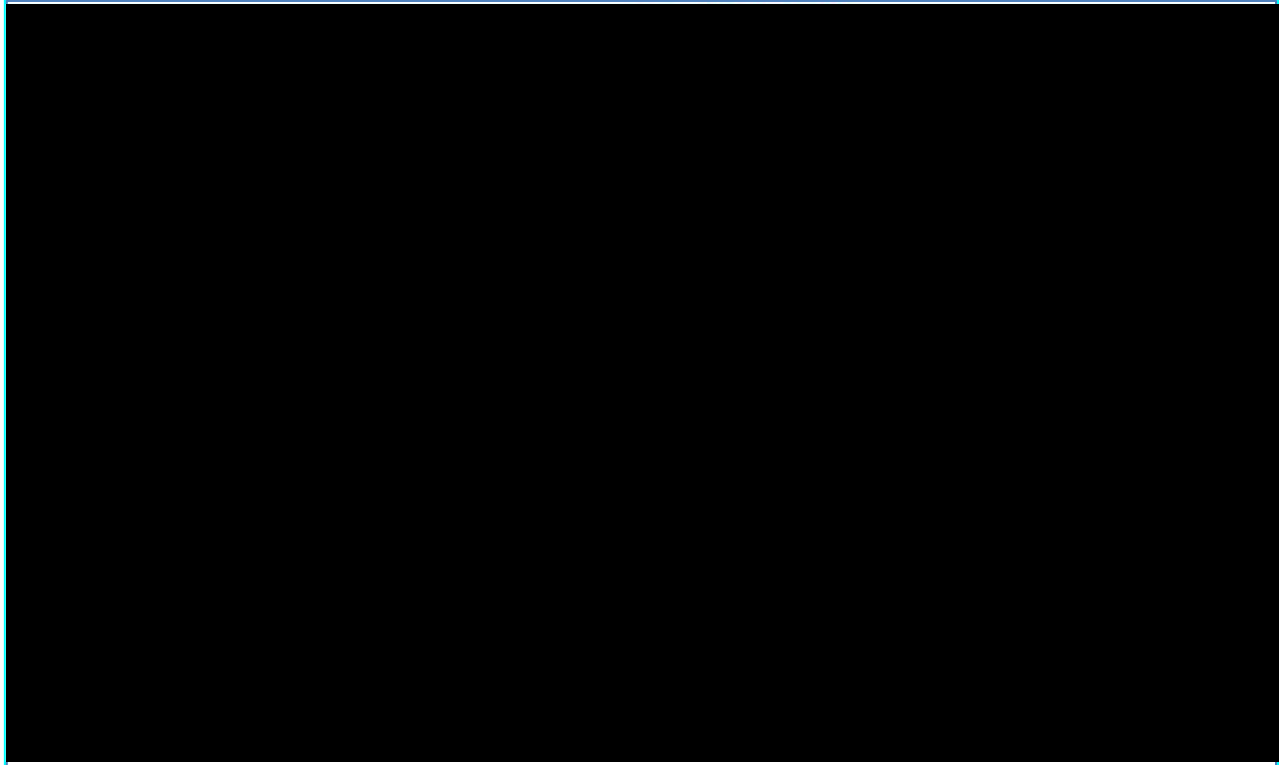
2 The voltage source, inductor, diode, and capacitor form a charging path to build up voltage
3 across the capacitor. *Id.* at 22:38-53, Fig. 5C. The placement and operation of the inductor provides a
4 significant advantage because it stores potential in an electric field and supplies this potential to the
5 capacitor, increasing the voltage across the capacitor more than if the inductor was omitted. *Id.* at
6 21:40-46. The capacitor, laser diode, and transistor form a discharge path. *Id.* at 22:54-67; Fig. 5D.
7 When the transistor is turned ON, the capacitor discharges current through the laser diode, causing it
8 to fire a pulse of light used for detection. *Id.* The use of a single transistor is also a significant
9 advantage because it allows the circuit to begin charging as soon as the laser diode stops emitting
10 light. *Id.* at 21:53-22:11. There is no lag between the end of the emission cycle and the beginning of
11 the charge cycle. As a result, the circuit is recharged and ready to fire more quickly, and more light
12 pulses can be emitted over a given time interval. More light pulses mean more data points, and
13 therefore a more accurate mapping of the surrounding environment.

14 **B. Evidence Of Infringement**

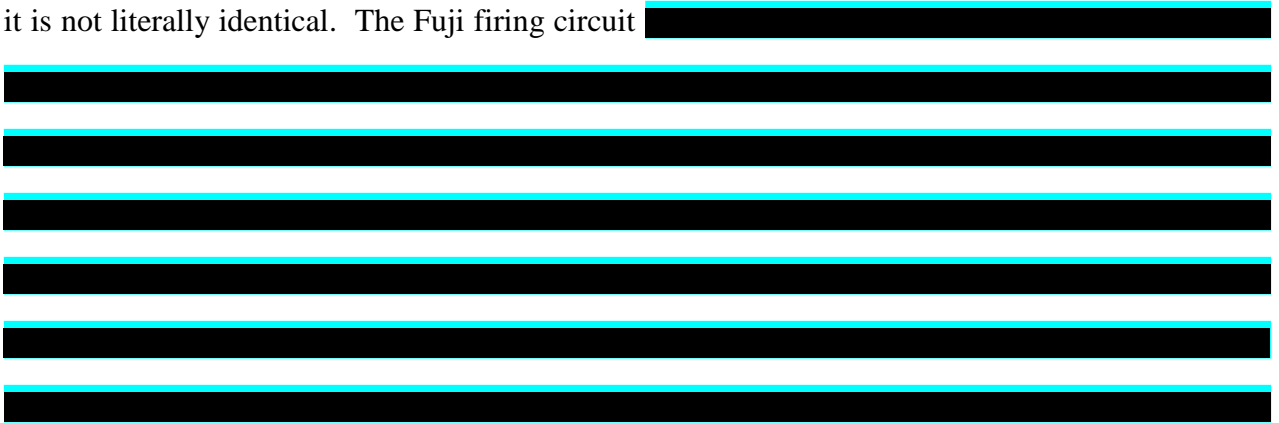
15 Approximately two months before Waymo filed its original complaint, one of Waymo's
16 engineers was inadvertently copied on an email from one of Waymo's LiDAR component vendors,
17 which attached design drawings and a bill of materials for what later was revealed to be the Fuji
18 device. Dkt. 25-3 at 14. The information demonstrated that the Fuji device [REDACTED]
19 [REDACTED]
20 [REDACTED]. Waymo relied
21 on this evidence to assert the Circuit Patent and later prepared detailed infringement contentions that it
22 served on June 19, 2017. Ex. 2 ('936 Infringement Contentions).

23 These contentions demonstrate how the Fuji firing circuit infringes at least claim 1 as depicted
24 below. Limitations 1[g] and 1[h] are indicated by the dashed blue and green arrows, respectively:
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While the infringing circuit is nearly identical to that described and claimed in the '936 patent, it is not literally identical. The Fuji firing circuit



Fuji thus includes this element under the doctrine of equivalents.

Fuji further

- **Same Function:**

1 [REDACTED]
2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 • **Same Way:** [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 • **Same Result:** The result is the same. [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]

20 Accordingly, [REDACTED] infringes under the doctrine of
21 equivalents. *See Brilliant Instruments, Inc. v. Guidetech, LLC*, 707 F. 3d 1342, 1348 (Fed. Cir. 2013)
22 (reversing grant of summary judgment because patentee had created genuine issue of material fact
23 whether a “whether Brilliant's capacitor, located within the first current circuit, performs substantially
24 the same function in substantially the same way to achieve substantially the same result as the claimed
25 capacitor, which is operatively disposed in parallel to the shunt”). Waymo expects that fact and expert
26 testimony will corroborate its infringement theory at trial.

27 On June 23, 2017, Uber produced a circuit diagram for what appears to be more recent version
28 of the Fuji firing circuit. Ex. 3 (UBER00075463-74). This most recent production confirms

1 Waymo's infringement theories against Fuji. The diagram is dated May 26, 2017, and it includes
2 twelve pages. *Id.* [REDACTED]

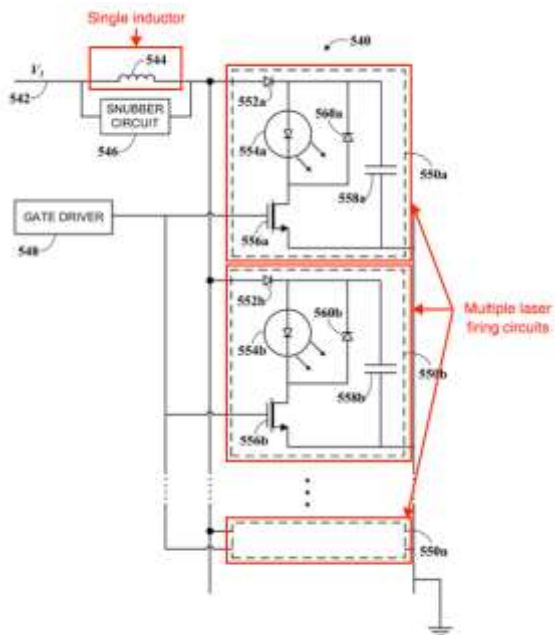
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]



Ex. 3 (UBER00075463-74) (Combined and annotated)

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18 As shown on the page marked UBER00075474, the Fuji circuit [REDACTED]
19 [REDACTED]
20 [REDACTED]. Dkt. 23-3 at Fig. 5E
21 (showing "an arrangement in which multiple laser diode firing circuit[s] are charged via a single
22 inductor").
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'936 Patent, Figure 5E



Accordingly, not only does the Fuji circuit infringe the claims of the Circuit Patent, it [REDACTED]. The evidence thus supports Waymo's continued assertion of the Circuit Patent.

DATED: July 7, 2017

QUINN EMANUEL URQUHART & SULLIVAN,
LLP

By /s/ Charles K. Verhoeven

Charles K. Verhoeven
Attorneys for WAYMO LLC